

**In the Claims:**

✓  
Please cancel claims 2-8, 10-12 and 15-25 without prejudice or disclaimer.

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Please add the following new claims:

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26. A system comprising:

a slidable member;

lubricating oil for an internal combustion engine in contact with said slidable member, the lubricating oil containing one or more oiliness agents;

wherein the slidable member includes a substrate selected from the group consisting of silicon nitride and a metal; and

DI a hard carbon-based film coated on a surface of said substrate, said hard carbon-based film having been applied by a process that produces in the surface of the film a sufficient number of polar groups to adsorb the oiliness agents from the lubricating oil to a degree to produce a lowered coefficient of friction.

27. A system as claimed in claim 26, wherein the process for applying the hard carbon-based film is selected from the group consisting of a process that provides at least one of (a) introducing into the surface of the film at least one of nitrogen and oxygen in an amount ranging from 0.5 to 30 at%; and (b) lowering the content of hydrogen in the surface of the film.

28. A system as claimed in claim 26, wherein the process for applying the hard carbon-based film is selected from the group consisting of a carbon ion beam process in which hydrogen plasma is not used at least during formation of the hard carbon-based film, a thermal chemical vapor deposition process which produces a diamond polycrystal, an ion plating process, and a sputtering process.

29. A system as claimed in claim 26, wherein the hard carbon-based film has a coefficient of friction of not higher than 0.07.

30. A system as claimed in claim 26, wherein the hard carbon-based film has a surface roughness, Ra, of not higher than 0.1  $\mu\text{m}$ .

31. A system as claimed in claim 26, wherein the hard carbon-based film has a thickness of 1 to 10  $\mu\text{m}$ .

32. A system as claimed in claim 26, wherein the substrate comprises steel.

33. A system comprising:

a) a metal or silicon nitride substrate;

b) an oiliness agent; and

c) a hard carbon-based film formed on the substrate, the hard carbon-based film comprising a sufficient number of polar groups to adsorb the oiliness agent to a degree to produce a lowered coefficient of friction.

34. A system according to claim 33, wherein said hard carbon-based film is a film selected from the group consisting of amorphous carbon and diamond like carbon.

35. A system according to claim 33, wherein the hard carbon-based film is a diamond polycrystal film.

36. A system according to claim 35, wherein the diamond polycrystal film is produced by thermal chemical vapor deposition.

37. A system according to claim 33, wherein the hard carbon-based film is produced by a process selected from the group consisting of a carbon ion beam process in which hydrogen plasma is not used during formation of the hard carbon-based film, a thermal chemical vapor deposition process which produces a diamond polycrystal, an ion plating process, and a sputtering process.

38. A system according to claim 33, wherein the substrate comprises steel.

292/137 39. A slidable member comprising the system of claim 33.

40. An adjusting shim for an internal combustion engine comprising a slidable member according to claim 39. 403/135

280/86.153 41. A motor vehicle comprising an adjusting shim according to claim 40.

42. A motor vehicle according to claim 41, wherein the adjusting shim is mounted on a valve lifter for an engine valve. 403/10.000

43. A motor vehicle according to claim 42, wherein the valve lifter forms part of a valve operating mechanism.

DI Cont. 44. A motor vehicle according to claim 43, wherein the adjusting shim is arranged in slidable contact with a camshaft.

45. A motor vehicle according to claim 44, wherein a lubricating oil comprising the oiliness agent is present between a surface section of the hard carbon-based film of the adjusting shim and the camshaft.

46. A motor vehicle according to claim 42, wherein the adjusting shim is in contact with a lubricating oil comprising an oiliness agent.

47. A system comprising:

a) a metal or silicon nitride substrate;

b) a hard carbon-based film formed on the substrate, the hard carbon-based film having been applied by a process that produces in a surface of the film an increased concentration of polar groups; and

c) an agent which adsorbs to the surface of the hard carbon-based film as a result of the presence of the polar groups and which thereby decreases the friction coefficient of the surface.

48. A system comprising:

a) a metal or silicon nitride substrate having a film formed thereon;

b) a lubricant comprising an oiliness agent in contact with the film; and

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end,  
c) said film comprising a hard carbon-based film formed on the substrate, the hard carbon-based film having (i) a surface roughness of not higher than 0.1  $\mu\text{m}$ , (ii) a thickness of 1 to 10  $\mu\text{m}$ , and (iii) comprising a sufficient number of polar groups to adsorb the oiliness agent to produce a coefficient of friction, Ra, of not higher than 0.07.

49. A system according to claim 48, wherein the hardness, Hv, of the hard carbon-based film is not lower than 1000.

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